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ABSTRACT

School-to-work efforts in the middle school provide students with in-depth exposure to a variety of careers. School-to-work efforts at the middle school level also help students identify their interests, aptitudes, and abilities. Key components of middle school school-to-work include the opportunity for students to do the following: build fundamental skills; assess personal aptitudes, abilities, and interests; participate in career exploration activities; build the connection between academic skills and the future; and set goals and develop a 4-year plan. Two examples of schools that incorporate elements of effective practices of school-to-work into middle school include Public School/Middle School 95, Bronx, New York and Applied Learning Academy, Fort Worth, Texas. (Resources listed include 6 examples of effective practices, 5 organizations, and 12 publications.) (KC)

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School-to-Work in Middle Schools

Effective school-to-work systems expose children in all grade levels to school- and work-based learning. School-to-work efforts in the middle school grades provide students with in-depth exposure to a variety of careers. School-to-work efforts at the middle school level also help students identify their interests, aptitudes, and abilities. Children can begin to link these elements of self-awareness to their newly acquired knowledge of careers as they make plans for high school, where they may actually gain on-site, first-hand experience in the workplace.

Middle schools are designed to meet the developmental needs of early adolescents (age 10-14). In middle school, young adolescents are undergoing rapid physical growth, moving from concrete to abstract thinking, forming a self-concept and developing social skills. Middle school students are faced with the complexities of self-understanding (who am I?), social understanding in the context of careers (what is life's work?), and goal development (what do I want to be?). A primary purpose of middle school is to support and counsel students as they further develop intellectual capabilities, cultivate social skills and define personal values. In addition, the middle school experience is intended to help students better understand adult roles. Students involved in school-to-work activities at the middle school level may have more opportunities to develop a self-concept. They also may have more exposure to adults in a variety of occupational roles. This heightened awareness should help them draw connections between their interests, current course choices, and possible careers.

This resource bulletin presents the key components of school-to-work in middle schools, outlines effective practices and lists resources for additional information.

Key Components

Build Fundamental Skills. The Secretary's Commission on Achieving Necessary Skills (SCANS) at the U.S. Department of Labor examined a variety of different kinds of work "from manufacturing to government employment," meeting with "business owners, public employees, unions, workers, and supervisors in shops, plants, and stores," to identify the fundamental skills common to all jobs and determine the levels of skill proficiency needed to perform effectively in the workplace at the entry-level. In its findings, the Commission outlined a three-part foundation of skills and personal qualities needed for solid job performance. The foundation includes **basic skills** of reading, writing, arithmetic and mathematics, speaking, and listening; **thinking skills** including creativity, decision-making, problem-solving, and reasoning; and **personal qualities** such as individual responsibility, self-esteem, sociability, self-management, and integrity. Together, these are known as the SCANS skills and competencies.

The middle school years, a unique and critical stage in a child's development, are an opportune time for teachers to begin working with children on building the SCANS skills and competencies. Children are struggling to form a self-concept and cultivate social skills. Teachers can help them to identify and develop personal qualities. In addition, children at this stage begin to intuitively use thinking skills to bring about desired outcomes. Teachers can help students recognize the applications of these skills in their daily lives.
Teachers can build activities that allow students to practice thinking skills and develop personal qualities into the curriculum. For example, when teaching a science lesson, the teacher may require students to work in groups, integrating social, critical and creative

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thinking, and reasoning skills, and elements of compromise, consensus building, and interaction into the lesson.

Assess Personal Aptitudes, Abilities, and Interests. Since middle school is by nature the time when students begin to form a self-image, it is the appropriate time for each student, with the support of parents, teachers, and counselors, to assess his or her personal aptitudes, abilities, and interests. The assessments should help students identify what types of activities they are good at and what types of skills they possess. Students should also begin to have an idea of what types of careers interest them. Middle schools often formally assess students with commercial career awareness tests or programs designed by the school or district. Some schools use programs such as the American College Testing (ACT) career assessment program, while other schools do assessment through class discussions and individual guidance counseling sessions.

Participate in Career Exploration Activities. In middle school, a student's exposure to the career world takes the form of exploration. Since students' choices in high school are likely to affect their future careers, students should be given a chance at the middle school level to further explore the careers they think they may be interested in pursuing. Exploration may entail field trips, community service projects, or job-shadowing experiences. These experiences give students an idea of where their aptitudes and abilities fit, so they can set goals and make plans for high school that align with their interests.

The Fort Worth Independent School District in Texas has created a career exploration program for middle school students called Vital Link for this purpose. In this program, each sixth grade student spends one twenty-hour week with a Fort Worth business learning first-hand the importance of communications, mathematics, creativity, and teamwork skills. The children use computers, write memos and check bank drafts. Teachers are also invited to visit businesses, either independently, or as supervisors for the childrens' workplace experiences. To date over 300 companies have participated providing experiences for approximately 3,000 middle school students.

Build the Connection Between Academic Skills and the Future. One of the main objectives of school-to-work efforts at the middle school level is to help students understand the link between their current academic studies and their future career choices. Children need to understand how their efforts now will contribute to their chances for success later. If students are going to meet high academic standards, the relationship between what they are learning and its future applicability should be clear. For example, when teaching a math concept, instead of using abstract examples, teachers can use real-life problems. A teacher may take a class working on statistics to the county elections office to learn how census statistics are collected and used. Not only is learning more meaningful, but by incorporating elements of career exploration, students are introduced to different career possibilities and gain a better understanding of some of the skills an individual must have to serve in different capacities.
Another strategy is to build the entire curriculum around an industry theme. For example, using aviation as the theme, a teacher could construct a math lesson on distance and time, a social studies lesson on geography, a science lesson on aerodynamics, and an English lesson requiring students to write stories about the Wright brothers.

Set Goals and Develop a Four-Year Plan. After assessing aptitudes, abilities, and interests, students should begin to set goals for their future and develop tentative outlines for secondary school that coincide with the career areas they are interested in. For middle schools that feed into high schools with career majors and occupational clusters, a four-year plan will help students think seriously about what major or cluster they will choose and the courses they will need to take.

Many schools require assessment and goal-setting for all students. For example, the Garland Independent School District in Texas has occupational clusters at the high school level.

Every student must have a four-year plan in the eighth grade outlining the occupational cluster they intend to pursue. To facilitate the decision-making process, schools in the district administer the ACT career survey to all eighth graders, and distribute a book entitled "Decisions, Decisions, Decisions," that lays out the course requirements for each occupational cluster.

Some states call for assessment and goal-setting for students. In New Jersey every student has an Individual Career Plan (ICP), a folder or portfolio that accompanies him/her throughout his or her education. Each year the student updates the document. For the middle school portion of the ICP the student identifies his or her unique qualities; chooses subject matter and career areas consistent with personal strengths, interests, and values; and then determines the academic coursework and work-based training needed for the chosen career or identified field of study. Projects and materials documenting these decisions are included in a student's portfolio.

Effective Practices

Many districts throughout the country are carrying out successful school-to-work initiatives that incorporate school-to-work learning at every level of education. Following are two examples of schools that incorporate elements of school-to-work into middle school.

Public School / Middle School 95, Bronx, New York. *Walks of Life*, a collaborative effort between the Greater New York Hospital Association, Inc. and the New York City public schools, connects educators and industry representatives with national programs such as WAVE, KAPOW, and Junior Achievement to help students in nine pilot site schools improve their academic performance, develop employability skills and learn about different kinds of careers. P.S./M.S. 95, a combination elementary and middle school, is a *Walks of Life* pilot project site in the Bronx.

The school-to-work activities in the middle grades at P.S./M.S. 95 focus on career exploration and skill building. In the sixth grade, Walks of Life and P.S./M.S. 95 employ a program by Work, Achievement, Values, and Education, Inc. (WAVE) designed to help students acquire the broad range of work habits, skills, and competencies needed to function effectively in the workplace. WAVE stresses teamwork, listening and speaking skills, and punctuality. Students practice resume writing and fill out sample job applications. In seventh grade, industry volunteers provide students with opportunities to further explore their interests through field trips and speaker presentations. For example, students with an interest in science might go on a trip to a power plant; those with an interest in art might spend time in a gallery with artists. Finally, in eighth grade, students perform a service learning project, either in the school or in the community. Projects are designed to give students an opportunity to apply their skills in the "real world," and skill building is incorporated into traditional curriculum areas. These activities help students choose their high school career paths.

Applied Learning Academy, Fort Worth, Texas. At the Fort Worth Independent School District's Applied Learning Academy, a middle school, teachers collaborate with employers and community representatives to link instruction and the "real world" by developing project-driven, problem-solving learning experiences for students. Learning becomes an active rather than a passive activity, with relevance well beyond the school walls. All academic subjects are integrated into lessons around "real-life" projects. The instructional modules are designed to develop a number of specified skills, including those identified by SCANS.

For example, the local Botanical Garden donated a plot of land to students at the Academy, and the children were tasked with developing it. They created the Butterfly Garden. Elements of the interdisciplinary project involved studying the history of the plot of land where the garden was to be built, formerly Indian territory; determining the kinds of butterflies that

inhabit the region and the kinds of plants that attract butterflies; and identifying the kinds of plants that would grow in the garden, given the region's soil and weather. Students also calculated the costs of the project and the dimensions of the garden and dealt with government entities to check zoning and obtain the necessary permits.

Through the Butterfly Garden activity, students explored their interest levels and abilities for a variety of tasks, and determined how best to apply their academic learning in a practical sense to produce the desired outcomes.

Examples and Effective Practices

Vital Link: Stephanie Jackson, Forth Worth Independent School District, 100 N. University Drive, Fort Worth, TX 76107 (817) 871-2450.

Garland Independent School District, Texas: Phillip Gilbreath, Garland Independent Schools, P.O. Box 469026, Garland, TX 75046 (972) 494-8540.

New Jersey School-to-Work Office: Phyllis Garnant, Office of School-to-Work Initiatives, CN 500, Trenton, NJ 08625 (609) 292-5870.

Public School/ Middle School 95: Jacqueline Cannon, PS/MS 95, 3961 Hillman Avenue, Bronx, NY 10463 (718) 796-9184.

Applied Learning Academy: Debbie Russell, Fort Worth Independent School District, 100 N. University Drive, Fort Worth TX 76107 (817) 871-2313.

Walks of Life: Jessica Arken, Greater New York Hospital Foundation, Inc., 555 West 57th Street, New York, NY 10019 (212) 246-7100.

Organizations

American College Testing (ACT) is a nonprofit organization dedicated to helping individuals make decisions about their education, training, and careers. It provides statewide career planning support systems, career/vocational information, employability skills assessments, and instructional support. ACT's DISCOVER publications include volumes focused on junior high and middle school experiences. P.O. Box 168, Iowa City, IA 52243-0168 (319) 337-1056 http://www.act.org.

The Education Resource Institute (TERI). TERI's mission is to provide information and advice about careers, postsecondary education and training, and financial aid so students will be able to make informed decisions about the future. TERI conducted assessments of career and postsecondary awareness programs for middle school students in four urban public school districts. TERI also developed recommendations for improving and expanding school system efforts and formulated and implemented approaches to fostering middle school students' awareness of career and education options. 330 Stuart Street, Suite 500, Boston, MA 02116-5237 (617) 426-0681 http://www.teri.org.

Northwest Regional Education Laboratory (NWRL) is running a demonstration project called Reality Check which disseminates information about successful middle school models that connect teaching and learning to the community. NWRL, 101 SW Main Street, Suite 500, Portland, OR 97204 (503) 275-9597 or 1-800-547-6339 http://www.nwrel.org/edwork/reality.

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School and Main. School and Main's mission is to support community efforts to build lasting multi-institutional alliances that dramatically improve the community's capacity to better prepare all youth to be productive. School and Main's education and community strategies for middle school, high school, and college age youth center around keeping them in school, improving their skills and bridging the gap between secondary and postsecondary education or the workforce. The Health Institute, New England Medical Center, 750 Washington Street, NEMCH 328, Boston, MA 02111 (617) 636-9151 http://www.shore.net/~schlmain.

Work, Achievement, Values and Education, Inc. (WAVE) provides a comprehensive, interactive, competency-based curriculum for students in grades 6-12, with a special program for middle schools called WAVE in Middle Grades. This curriculum concentrates on school success, preparation for high school, and eventually, for the world of work. More than 100 lessons introduce concepts of responsibility, decision-making, choices, and consequences, through hands-on activities and teamwork. 501 School Street, SW, Suite 600, Washington, DC 20014 (202) 484-0103 or 1-800-274-2005.

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